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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/322,770 04/11/00 SHINOGLER R 87-146-R

QM02/0804
CATERPILLAR INC.
PATENT DEPARTMENT, AB6490
100 NE ADAMS STREET
PEORIA IL 61629-6490

EXAMINER

GIMIE, M

ART UNIT	PAPER NUMBER
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3747

DATE MAILED: 08/04/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/322,770

Applicant(s)
Shingole et al

Examiner
Mahmoud Gimle

Group Art Unit
3747



- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

- ☒ Claim(s) 1-45 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 1-31 is/are allowed.
- ☒ Claim(s) 32-45 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 35-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 41-45 do not conform with U.S. patent practice in that a process claim should include a series of active steps. Each active step should be further inter-related with the previously defined step(s). Claims 41-45 do not contain active steps.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 32-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Busser et al (4,379,332).

Busser et al discloses an electronic fuel injector (EFI) control system for an internal combustion engine in which the fuel quantity is trimmed to compensate for variations between the performance of actual injector (measured resultant characteristics) and an ideal injector (nominal

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resultant characteristics), see column 4, first paragraph. The injector control signal is adjusted using the trim values to obtain injector operation with characteristics that approach nominal or ideal injector characteristics. Trim values are determined empirically, see column 103, line 15-27. These values would inherently include measuring injector characteristics at a plurality of operating conditions to allow categorization of each injector into a trim category. The trim category is then entered into a volatile memory of the control system. Given a control signal for all injectors, the trim-adjusted control signal will ensure that the same amount of fuel is injected by each injector, see column 112, line 27-30.

Busser et al does not clearly teach reading (as opposed to measuring) data indicative of the resultant characteristics associated with the fuel injectors or recoding data indicative of the resultant characteristics in a machine readable form(0,1). However, these are inherent teachings of the prior art reference(electronic control) and reciting such limitations do not necessarily make the claim patentable, see MPEP 2112, see also In re Grasselli, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed.Cir. 1983).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the invention of Busser et al by further claiming inherent characteristics of the invention. The motivation to do so would have been to show further implementation of the invention.

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Reissue Applications

4. Claims 32-45 are rejected under 35 U.S.C. 251 as being broadened in a reissue application filed outside the two year statutory period.

Claims 32-45 recite “an apparatus control system” and claims 35-40 recite “a method for operating an apparatus” which enlarges the scope of the claims of the original patent. Claims 41-45 recite “reading...from a data recording...” compared to “associate, for each injector, the measured delivery characteristic with the respective injector” recited in claim 18 of the patent. This is an absolute bar and applies to any claim which is broader *in any respect than the claims of the original patent*, see MPEP 706.03(x). A claim of a reissue application enlarges the scope of the claims of the patent if it is broader in *at least one respect*, even though it may be narrower in other respects.

5. The original patent, or an affidavit or declaration as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178.

6. Applicant is reminded of the continuing obligation under 37 CFR 1.56 to timely apprise the Office of any litigation information, or other prior or concurrent proceeding, involving Patent No. 5,634,448 , which is material to patentability of the claims under consideration in this reissue application. This obligation rests with each individual associated with the filing and prosecution of this application for reissue. See MPEP §§ 1404, 1442.01 and 1442.04.

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Allowable Subject Matter

7. Claims 1-31 are allowed over prior art of record.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

References disclose method and apparatus for controlling the amount of fuel injected into an internal combustion engine.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud M. Gimie whose telephone number is (703)305-1037. The examiner may normally be reached on Monday through Friday 7:00 a.m. to 3:30 p.m.

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Any inquiry of a general nature or relating to the status of this application or proceeding, should be directed to the Group receptionist whose telephone number is (703)308-0861.



Noah P. Kamen
Primary Examiner

M.Gimie, Examiner.

August 2, 2000